

US005718996A

United States Patent [19]

Iijima et al.

[54] ELECTROSTATIC INFORMATION RECORDING MEDIUM AND ELECTROSTATIC INFORMATION RECORDING AND REPRODUCING METHOD

[75] Inventors: Masayuki Iijima; Kyoji Dantani;

Hiroyuki Obata; Makoto Matsuo; Minoru Utsumi; Seiji Take, all of

Tokyo, Japan

[73] Assignee: Dai Nippon Printing Co., Ltd., Tokyo,

Japan

[21] Appl. No.: 703,653

[22] Filed: Aug. 27, 1996

Related U.S. Application Data

[62] Division of Ser. No. 462,563, Jun. 5, 1995, Pat. No. 5,587, 264, which is a continuation of Ser. No. 981,141, Nov. 24, 1992, abandoned, which is a division of Ser. No. 613,689, Nov. 15, 1990, abandoned.

[30] Foreign Application Priority Data

Mar. Mar. Mar.	16, 1989 18, 1989 18, 1989 18, 1989 18, 1989	[JP] [JP] [JP] [JP] [JP]	Japan Japan Japan	1-64264 1-66793 1-66796 1-67242 1-67248
[51]	Int. Cl.6			G03G 15/00
[52]	U.S. Cl.			
				430/31, 48, 57,

[56] References Cited

U.S. PATENT DOCUMENTS

4,496,642	1/1985	Tam et al	430/127
4,738,914	4/1988	Mizuno	. 430/67

[11] Patent Number:

5,718,996

[45] Date of Patent:

Feb. 17, 1998

4,762,761	8/1988	Mitani 430/65
5.161.233	11/1992	Matsuo et al 355/218

Primary Examiner—S. Rosasco
Attorney, Agent, or Firm—Nikaido, Marmelstein, Murray &
Oram LLP

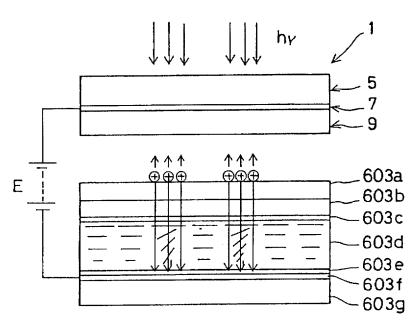
[57] ABSTRACT

The electrostatic information recording medium according to the present invention comprises an electrode layer and an electric charge retaining layer. By improving the laminating method of electric charge retaining layer or by improving the layer arrangement or by converting electrostatic information to the visible information or position information, high information retaining property can be obtained and the accumulated electrostatic information can be maintained for long period.

In the electrostatic information recording method according to the present invention, an electrostatic information recording medium is placed face-to-face to a photosensitive member having photoconductive layer on an electrode. The image exposure is performed by applying voltage between two electrodes, and the electrostatic information corresponding to the image exposure is recorded on the electrostatic information recording medium. The electrostatic information recorded in the electric charge retaining layer is easily reproduced by reading surface potential and by amplifying and outputting, or by electro-optical reading method, and further, by toner development.

The electrostatic information recording medium according to the present invention has excellent memory capacity with information density of 8×10^8 bits/cm². For example, it is possible to record the information by electrostatic information recording method using a photosensitive member, to record analog, digital, image, sound and (0.1) information, and to apply for electrostatic recording card and the like.

19 Claims, 28 Drawing Sheets



430/60, 62, 56, 20